Amendments to the Claims:

The following claims will replace all prior versions of the claims in this application (in the unlikely event that no claims follow herein, the previously pending claims will remain):

C1

1. (Currently amended) Process for the hydrogenation of a polymer composed of conjugated diene monomer units and a nitrile group-containing monomer units, which comprises carrying out the hydrogenation in the presence of hydrazine, an oxidizing compound, an antioxidant comprising more than 6 carbon atoms and chosen from a derivative of a substituted aromatic alcohol, of dihydroquinoline, of benzimidazole or of an aromatic secondary amine ~~and a compound which contains an element from group 13 of the periodic system as catalyst~~, and wherein the antioxidant is added to the polymer prior to hydrogenation, and further wherein said polymer is other than a nitrile-butadiene rubber that is polymerized in the presence of an antidegradant.

2. (Currently amended) Process according to claim 1, wherein nitrile-butadiene rubber which was not polymerized in the presence of an antidegradant is used as the polymer.

3 (Previously presented) Process according to claim 1, wherein the antioxidant is a p-phenylenediamine derivative.

4. (Original) Process according to claim 1, wherein N-isopropyl-N'-phenyl-p-phenylenediamine is used as antioxidant.

5. (Canceled)

6. (Canceled)

7. (Original) Process according to claim 1, wherein the molar ratio of hydrazine compound/double bonds is between 0.9/1 and 2/1.

8. (Original) Process according to claim 1, wherein the molar ratio of oxidizing compound/double bonds is between 0.9/1 and 2/1.

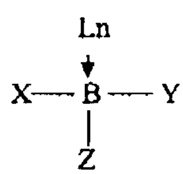
9. (Original) Process according to claim 1, wherein the oxidizing compound is added to the reaction mixture after hydrazine.

10. (Original) Process according to claim 1, wherein the polymer is present in the latex form.

11. (Original) Process according to claim 1, wherein the oxidizing compound is hydrogen peroxide.

12. (Currently amended) Process according to claim 19, wherein the catalyst is a boron-containing compound.

13. (Previously presented) Process according to claim 12, wherein the boron-containing compound is a compound of formula

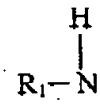


where X, Y and Z, are, independently, R, OR, OOR, NR_2, SR, PR_2, OC(=O)R or halogen atom, where R represents a hydrogen atom or an alkyl, aryl or cycloalkyl group having 1 to 20 carbon atoms, or a hydrocarbon group containing 1 to 20 carbon atoms and a heteroatom from groups 14, 15, 16 or 17 of the periodic table of the elements; L is an electron-donating ligand and n = 0 or 1.

14. (Previously presented) Process according to claim 12, wherein the boron-containing compound is a borate or a peroxyborate.

15. (Previously presented) Process according to claim 12, wherein the boron-containing compound is boric acid.

16. (Previously presented) Process according to claim 1, further comprising adding a compound of formula I to the hydrogenated polymer:



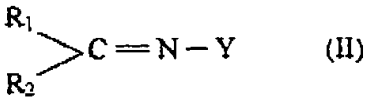
(I)

where R_1 represents a hydrogen atom, an alkyl or cycloalkyl group with from 1 to 30 carbon atoms, or an aromatic group with 6 to 30 carbon atoms; and

X represents $-R_3$, $-OR_4$, $-SR_4$ or $-NR_5R_6$,

where R_3, R_4, and R_5, independently, represent a hydrogen atom, an alkyl or cycloalkyl group with from 1 to 30 carbon atoms, or an aromatic group with 6 to 30 carbon atoms, and R_6 represents an alkyl or cycloalkyl group with from 1 to 30 carbon atoms, or an aromatic group with 6 to 30 carbon atoms.

17. (Previously presented) Process according to claim 1, further comprising adding a compound of formula II before, during or after the hydrogenation:



(II)

where R_1 represents a hydrogen atom, an alkyl or cycloalkyl group with from 1 to 30 carbon atoms, or an aromatic group with 6 to 30 carbon atoms;

R_2 represents an alkyl or cycloalkyl group with from 1 to 30 carbon atoms, or an aromatic group with 6 to 30 carbon atoms, and

Y represents $-R_7$, $-OR_8$, $-SR_8$, $-NR_9R_{10}$ or $-N=CR_{11}R_{12}$,

where R_7, R_8, R_9, R_{10}, R_{11} and R_{12}, independently, represent a hydrogen atom, an alkyl or cycloalkyl group with from 1 to 30 carbon atoms, or an aromatic group with 6 to 30 carbon atoms, and wherein, any of R_3 to R_{12} may contain one or more heteroatoms from groups 13, 14, 15, 16 or 17 of the periodic table of the elements.

18. (Previously presented) Process according to claim 2, wherein the nitrile-butadiene rubber is one which was prepared in the absence of a polymerizable antidegradant.

19. (New) Process according to claim 1, wherein the hydrogenation is carried out in the presence of a compound which contains an element from group 13 of the periodic table as catalyst.